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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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DEL CHRISTENSEN
SHELL OIL COMPANY
P.O. BOX 2463
HOUSTON, TX 77252-2463

EXAMINER	
KRECK, JOHN J	

ART UNIT	PAPER NUMBER
3673	

DATE MAILED: 06/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/841,305	WELLINGTON ET AL.	
	Examiner	Art Unit	
	John Kreck	3673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Peri d for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 April 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2039-2116 and 5396-5403* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2039-2116 and 5396-5403* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 19,20,23 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/16/03 has been entered.

Claims 2039-2116 and 5396-5403 are pending in this application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> **A person shall be entitled to a patent unless –**
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 2039, 2041, 2049, 2065, 2072, 2073, 2074, 2078, 2080, 2088, 2104, 2111, 2112, and 2113 are rejected under 35 U.S.C. 102(b) as being anticipated by Tsai, et al. (U.S. Patent number 4,299,285).

The Tsai reference teaches a method for treating a hydrocarbon formation in situ comprising providing heat from one or more heaters to a portion of the formation; allowing heat to transfer, and producing a mixture as called for in claim 2039. Although the Tsai reference fails to explicitly disclose the moisture content less than about 15%;

this is inherent feature of most bituminous coal formations, as shown on figure 2.11 and on section 4.3 of "Coalbed Methane".

With regards to claim 2041; the Tsai reference teaches a pyrolysis temperature range within a section of the formation between 270 and 400°C (see col. 3, line 42).

With regards to claim 2049; the Tsai reference does not explicitly teach the transferring by conduction; however this is inherent in a solid substance such as coal. Even though the bulk of the heating in the Tsai method may be done by convection; it is apparent that some unfractured coal must remain, and thus the allowing heat to transfer comprises transferring heat substantially by conduction (that is, substantially within the unfractured portions or parts).

With regards to claim 2065, the Tsai reference teaches the pressure greater than 2.0 bar.

With regards to claim 2072; Tsai teaches combustion of the coal. Since most of the coal would be burned, the permeability would inherently increase to greater then 250 md in at least "a part" of the formation.

With regards to claim 2073; the Tsai reference teaches the increase in permeability greater in table 1 and col. 5, lines 22-27. The uniform increase in permeability is an inherent result of the injection of hot air and heating of the coal.

With regards to claim 2074, although the Tsai reference fails to explicitly disclose a Fischer Assay; it is apparent that the disclosed process will yield greater than 60%.

Regarding independent claim 2078:

1. The Tsai reference teaches a method for treating a hydrocarbon formation in situ comprising providing heat from one or more heaters to a portion of the formation; allowing heat to transfer, and producing a mixture as called for in claim 2078. Although the Tsai reference fails to explicitly disclose the moisture content less than about 15%; this is inherent feature of most bituminous coal formations, as shown on figure 2.11 and on section 4.3 of "Coalbed Methane".

With regards to claim 2088; the Tsai reference does not explicitly teach the transferring by conduction; however this is inherent in a solid substance such as coal. Even though the bulk of the heating in the Tsai method may be done by convection; it is apparent that some unfractured coal must remain, and thus the allowing heat to transfer comprises transferring heat substantially by conduction (that is, substantially within the unfractured portions or parts).

With regards to claim 2080; the Tsai reference teaches a pyrolysis temperature range within a section of the formation between 270 and 400°C (see col. 3, line 42).

With regards to claim 2104, the Tsai reference teaches the pressure greater than 2.0 bar.

With regards to claim 2111; Tsai teaches combustion of the coal. Since most of the coal would be burned, the permeability would inherently increase to greater then 250 md in at least "a part" of the formation

With regards to claim 2112; the Tsai reference teaches the increase in permeability greater in table 1 and col. 5, lines 22-27. The uniform increase in permeability is an inherent result of the injection of hot air and heating of the coal.

With regards to claim 2113, although the Tsai reference fails to explicitly disclose a Fischer Assay; it is apparent that the disclosed process will yield greater than 60%.

2. Claims 2039, 2045, 2078, and 2084 are rejected under 35 U.S.C. 102(b) as being anticipated by Terry (U.S. Patent number 4,010,800).

The Terry reference teaches a method for treating a hydrocarbon formation in situ comprising providing heat from one or more heaters to a portion of the formation; allowing heat to transfer, and producing a mixture Terry also teaches the moisture less than 15% (see table at bottom of col. 1) as called for in claim 2039.

Terry also teaches a natural distributed combustor as called for in claim 2045.

Regarding independent claim 2078:

The Terry reference teaches a method for treating a hydrocarbon formation in situ comprising providing heat from one or more heaters to a portion of the formation; allowing heat to transfer, and producing a mixture Terry also teaches the moisture less than 15% (see table at bottom of col. 1) as called for in claim 2078.

Terry also teaches a natural distributed combustor as called for in claim 2084.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 2042, 2043, 2050-2053, 2057-2062, 2066, 2067, 2081, 2082, 2089-2092, 2096-2101, 2105, and 2106 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsai, et al. (U.S. Patent number 4,299,285).

With regards to claims 2042 and 2081, electrical heaters are well known to heat air. It would have been obvious to one of ordinary skill in the art at the time of the invention to have used an electrical heater with the Tsai process as called for in claims 2042 and 2081, in order to heat the air.

With regards to claims 2043 and 2082, Tsai fials to explicitly disclose how the air is heated. Surface burners are well known to heat air. It would have been obvious to one of ordinary skill in the art at the time of the invention to have used a surface burner with the Tsai process as called for in claims 2043 and 2082, in order to heat the air.

With regards to claims 2050 and 2089; the Tsai reference does not teach the thermal conductiviy; however, it would have been further obvious to one of ordinary skill in the art at the time of the invention to have practiced the Tsai method in a coal seam having a thermal conductivity of greater than about 0.5W/(m°C) as called for in claims 2050 and 2089; such a formation would be a desirable choice because it would heat more uniformly.

With regards to claims 2051-2053, 2057-2062, 2066, 2067, 2090-2092, 2096-2101, 2105, and 2106; the nature of hydrocarbons produced from such heating is highly variable, and dependent upon many factors, not least of which is the characteristics of

the coal. The components of the produced mixture are deemed to be the results of design variables, including coal characteristics and temperature.

4. Claims 2044 and 2083 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsai in view of Bennett (U.S. Patent number 3,680,633).

Tsai fails to teach the flameless distributed combustor.

Bennett teaches the use of a flameless distributed combustor to initiate combustion in a similar process. Bennett teaches that the flameless distributed combustor is advantageous because it provides for speedy ignition.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Tsai process to have included a flameless distributed combustor as called for in claims 2044 and 2083, in order to provide for speedy ignition.

5. Claims 2046 and 2085 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsai in view of Elkins (U.S. Patent number 2,734,579).

The Tsai reference fails to teach the controlling the temperature and pressure wherein the temperature is controlled as a function of the pressure or the pressure is controlled as a function of the temperature.

Elkins teaches controlling the pressure in order to lower the temperature (col. 3, line 46); this is done in order to help prevent overheating. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Tsai process to have included the temperature is controlled as a function of the pressure or

the pressure is controlled as a function of the temperature as called for in claims 2046 and 2085, and as taught by Elkins, in order to prevent overheating.

6. Claims 2048and 2087 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsai in view of Kasevich, et al. (U.S. Patent number 4,457,365).

The Tsai reference fails to teach the heating rate. With regards to claims 2048 and 2087; it is known to heat at rates of less than 10°C per day, as shown by Kasevich (figure 3). It is apparent that this low heating rate is desirable because it results in more uniform heating, and reduces the possibility of hot spots. It would have been obvious to one of ordinary skill in the art at the time of the invention to have further modified the Tsai method to have included heating at a rate of less than about 10°C per day as called for in claims 2048 and 2087, in order to achieve more uniform heating. The claim limitations drawn to the heating energy are nothing more than well known thermodynamic equations.

7. Claims 2063, 2064, 2102 and 2103 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsai, et al. in view of Stoddard, et al. (U.S. Patent number 4,463,807).

The Tsai reference fails to explicitly teach the ammonia.

It is well known that ammonia is a byproduct of such heating of coal. This is taught by Stoddart. It is readily apparent that the amount of ammonia is dependent on many design factors, including the formation characteristics (hydrocarbon content, etc.).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have practiced the Tsai method, as modified, in a formation with characteristics allowing greater than 0.05% of the produced mixture to be ammonia, as called for in claims 2063 and 2102.

With regards to claim 2064 and 2103; it is well known that one of the chief uses for ammonia is fertilizer; thus it would have been further obvious to one of ordinary skill in the art at the time of the invention to have used ammonia produced form the coal seam for fertilizer as called for in claims 2064 and 2103.

8. Claim 2040, 2075, 2076, 2079, 2114, 2115, 5396 and 5397 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsai, et al. (U.S. Patent number 4,299,285) in view of Van Meurs, et al. (U.S. Patent number 4,886,118).

The Tsai reference fails to teach the at least about 7 heaters for each production well. Note that Tsai teaches: "*the principles are applicable to a multiple of interrelated injection and production wells*" (col. 2, line 8).

The Van Meurs reference teaches a similar in situ heating system, and further teaches that six or twelve heat sources for each production well significantly increases the production (col. 8, line 24).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Tsai method to have included at least about 7 heat sources disposed in the formation for each production well, as called for in claims 2075 and 2114, in order to improve production.

With regards to claims 2040 and 2079; the Tsai reference fails to explicitly teach the superposition of heaters. It is apparent that one of ordinary skill in the art would know that the heaters should be spaced to substantially heat the entire formation. Any configuration of heat sources that provides heat to the entire formation would inherently cause superposition of heat, this is shown by Van Meurs; thus it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Tsai method to have included superposition of heat as called for in claims 2040 and 2079; in order to ensure that the entire formation is heated.

With regards to claim 2076 and 2115; the Van Meurs reference teaches the heat sources surrounding the production well; since this includes at least 3 sources this inherently includes a triangle. It would have been further obvious to one of ordinary skill in the art at the time of the invention to have further modified the Tsai method to have included at least 3 sources in a triangle as called for in claim 2076 and 2115, in order to increase production.

With regards to claims 5396 and 5397; is apparent that the number of heat sources is largely a matter of engineering design. It would have been obvious to one of ordinary skill in the art at the time of the invention to have used at least about 20 heat sources for each production well, as called for in claims 5396 and 5397, based on the desired heating rate and formation heat transmission characteristics.

9. Claims 2077 and 2116 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsai, at al.; Van Meurs, et al.; and Salomonsson (U.S. Patent number 2,914,309).

The Van Meurs and Tsai references fail to explicitly teach the unit of heat sources in a triangular pattern and the plurality of units in a repetitive pattern. It is noted that the Van Meurs reference teaches the heat sources surrounding the production well, which would inherently include a triangular pattern.

Salomonsson teaches that it is desirable to have a repetitive pattern in order to cover the area evenly. It is apparent that this is beneficial in order to prevent hot spots. It would have been further obvious to one of ordinary skill in the art at the time of the invention to have further modified the Tsai method to have included a unit of a triangular pattern and a repetitive pattern of units as called for in claims 2077 and 2116; in order to cover the area evenly.

10. Claims 5398 and 5400-5403 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Meurs (U.S. Patent number 4,886,118) in view of Schultz, et al. (U.S. Patent number 3,947,683) and Kasevich, et al. (U.S. Patent number 4,457,365).

Van Meurs teaches a method for treating a hydrocarbon formation including the steps of providing heat from one or more heaters positioned in heater wells and producing a mixture. Van Meurs fails to teach the evaluating the moisture content.

It is well known in the hydrocarbon industries that moisture is undesirable in such processes, because heat energy is wasted when excessive moisture must be removed.

This is taught by Schultz, which also teaches the step pf evaluating moisture (see col. 8, lines 36-39).

Kasevich teaches that typical moisture content in oil shales is from a fraction of a percent to three percent (col. 8, lines 17-20).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Van Meurs process to have included the step of evaluating as taught by Schultz, and to have identified a portion having moisture less than 20% as called for in claim 5398; since moisture results in wasted heating energy.

With regards to claims 5400 and 5401; it would have been further obvious to one of ordinary skill in the art at the time of the invention to have identified a portion of the formation having a moisture less than 10% or 15%, since low moisture is clearly desirable and 3% is known as a typical moisture value.

With regards to claim 5402; Van Meurs teaches at least 7 heaters (col. 8, line 20).

With regards to claim 5403; Van Meurs teaches the heating rate less than 10°C/day (see figure 8). The claim limitations drawn to the heating energy are nothing more than well known thermodynamic equations.

11. Claim 5399 is rejected under 35 U.S.C. 103(a) as being unpatentable over Van Meurs, Schultz, and Kasevich as applied to claim 5398, and further in view of Elkins (U.S. Patent number 2,734,579).

The Van Meurs reference fails to teach the controlling the temperature and pressure wherein the temperature is controlled as a function of the pressure or the pressure is controlled as a function of the temperature.

Elkins teaches controlling the pressure in order to lower the temperature (col. 3, line 46); this is done in order to help prevent overheating. It would have been obvious to one of ordinary skill in the art at the time of the invention to have further modified the Van Meurs process to have included the temperature is controlled as a function of the pressure or the pressure is controlled as a function of the temperature as called for in claims 5399, and as taught by Elkins, in order to prevent overheating.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

1. Claims 2047, 2048, 2054-2056, 2069-2071, 2064, 2086, 2087, 2093-2095, 2108-2110, and 2104 have been identified as including subject matter which is allowable over the prior art.

2. Claims 2039-2116 and 5396-5403 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over copending Application Nos. 09/840,937; 09/841,170; 09/841,288; 09/841,291; 09/841,300; 09/841,432; 09/841,438; 09/841,445;09/841,495; 09/841,638; and 09/841,639; in view of Terry (U.S. Patent number 3,924,680) and "Coalbed Methane: Principles and Practice". Although the conflicting claims are not identical, they are not patentably distinct from each other because the differences are obvious. Each of these copending applications has an independent claim which generally corresponds to a claim in the instant application. The copending applications do not call for the moisture; however the moisture value is obvious/and or inherent (as set forth in the 102/103 rejections above). A table listing the applications and the claims in the instant application which correspond is shown below:

Copending application	Corresponding claims
09/840,937	2069, 2070, 2071, 2108, 2109, 2110
09/841,288	2069, 2070, 2071, 2108, 2109, 2110
09/841,291	2065,2104
09/841,300	2055, 2094
09/841,432	2065,2104
09/841,438	2056, 2095
09/841,445	2069, 2070, 2071, 2108, 2109, 2110
09/841,495	2056, 2095

09/841,638	2065,2104
09/841,639	2054, 2093

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

12. Applicant's arguments filed 4/16/03 have been fully considered but they are not persuasive.

With regards to independent claims 2039 and 2078; Applicant argues that the Tsai reference fails to teach the steps of "providing heat from one or more heaters" and "allowing heat to transfer from one or more heaters". Applicant argues that the definition of heater: "any system configured to generate heat in a well or a near wellbore region" excludes the heat systems taught by Tsai. Tsai teaches both the injection of hot air (e.g. col. 4, lines 49-70) to heat a near wellbore region (similar to the "surface burner" heater claimed in claim 2043) and subsequent in-situ combustion (e.g. col. 5, line 52). The plain language of applicant's definition of the term "heater" does not exclude either injection of hot air or fireflood. It is noted that applicant's claimed species of heater also include embodiments which heat the formation by in-situ combustion ("natural distributed combustor"). Applicant's characterization of examiner's remarks as acquiescence that Tsai fails to teach "any system configured to generate heat in a well or a near wellbore region" is unfounded: the examiner's remarks were a

simply restatement of applicant's arguments. Tsai clearly teaches a system configured to generate heat in a well or near wellbore region.

With regards to claims 2049 and 2088; applicant's arguments have been considered, however the claim language calls for the method comprising allowing heat to transfer "to a part" of the formation (independent claims) and calls for "allowing the heat to transfer comprises transferring substantially by conduction". The claims twice use the open ended language "comprises" or "comprising"; and only limit the step of "allowing" by calling for a "part" of the formation. It is clear that the Tsai method allows heat to transfer by conduction to "a part" of the formation.

With regards to claims 2065 and 2104; 500 psi is much greater than 2 bar.

With regards to claims 2072, 2073, 2111, and 2112; applicant's arguments are not persuasive. It is noted that the claim language is extremely broad, and only requires a "part" of the formation. One could reasonably interpret the "part" of the formation to be an area adjacent to the linkage described by Tsai, and cited in applicant's remarks. With regards to applicant's request for basis in fact or technical reasoning to support the assertion that the increase in permeability is inherent; it is readily apparent that the injection of hot air and/or combustion increase the permeability by pyrolyzing and/or oxidizing/combusting some of the coal. It is noted that applicant's invention achieves the increase in permeability through heating at the same temperature ranges as taught by Tsai.

With regards to claims 2074 and2113; Tsai indicates that the combustion continues until the coal is exhausted. If the coal is exhausted, then yields approaching 100% are to be expected.

With regards to claims 2050 and 2089; see figure 5 on page 275 of "Fuel a journal of Fuel Science" (applicant's citation A255) which clearly shows increasing thermal conductivity with temperature.

With regards to claims 2048 and 2087; applicant has asserted that "Tsai and Kasevich do not appear to teach or suggest *using a desired heating rate to calculate a maximum average heating energy/day...*" [emphasis added] This step of "using" is not claimed. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

With regards to claims 2063, 2064, 2102 and 2103; one would find it desirable to produce ammonia because it is a saleable product.

With regards to claims 5396 and 5397, Van Meurs provides ample suggestion to one skilled in the art that more wells may be desirable. It has been established that mere duplication of parts has no patentable significance unless a new and unexpected result is produced.

13. Applicant's further arguments have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Kreck whose telephone number is (703)308-2725. The examiner can normally be reached on M-F 6:00 am - 3:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Shackelford can be reached on (703)308-2978. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3597 for regular communications and (703)305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)306-4177.

JJK
May 30, 2003

DAVID BAGNELL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600